

New Taxa and Combinations in Chinese Primulaceae

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ABSTRACT. Two new taxa, *Lysimachia tsaii* and *L. henryi* var. *guizhouensis*, are described, and three new combinations, *L. kwangtungensis* (Handel-Mazzetti) C. M. Hu, *Primula tardiflora* (C. M. Hu) C. M. Hu, and *P. melanantha* (Franchet) C. M. Hu, are proposed.

The following new taxa and nomenclatural adjustments are herein presented in order to make the names available for the forthcoming volume 15 of the *Flora of China*.

Lysimachia tsaii C. M. Hu, sp. nov. TYPE: China. Yunnan: Langping Xian, in ravines, alt. 2,800 m, *H. T. Tsai* 56213 (holotype, A).

Herba perennis 30–50 cm alta. Caulis erectus, obtuse quadrangularis, superne saepe ramosus et glandulosus. Folia subopposita, lanceolata vel lineari-lanceolata, 2.5–7 cm longa, 0.3–1.4(–1.8) cm lata, glabra, secus marginem glanduloso-punctata et striolata, basi cuneato-attenuata, margine crispo-undulata, apice caudato-acuminata, nervis lateralibus 5 vel 6 paribus; petiolus ca. 5 mm longus. Inflorescentia racemosa, terminalis, 3–8 cm longa; bracteae subulato-lanceolatae pedicelis aequantes vel paulo superantes. Pedicelli 2.5–3.5 mm, glandulosi. Calyx ca. 5 mm longus, fere ad basin in lobos lineari-lanceolatos lineis duabus glandulosis fuscis obsitos fissus. Corolla rosea, 7.5–8.5 mm longa, tubo ca. 2 mm longo, lobis oblongo-lanceolatis, 3–3.2 mm latis, saepe glanduloso-striatis. Stamina corollam aequantia vel paulo superantia, filamenta basi loborum corollae adnata; antherae ellipticae, ca. 1 mm longae. Ovarium glabrum; stylus ca. 7 mm longus. Capsula globosa, ca. 2.5 mm diametro, brunnea.

Perennial herbs, 30–50 cm high. Stems erect, obtusely quadrangular, often branched and glandular above. Leaves subopposite, lanceolate to linear-lanceolate, 2.5–7 cm long, 0.3–1.4(–1.8) cm wide, glabrous, green adaxially, paler abaxially, glandular punctate and striolate along margin, base cuneate-attenuate, margin crisped-undulate, apex caudate-acuminate; lateral veins 5 or 6 pairs, midvein elevated abaxially; petiole ca. 5 mm long, narrowly margined. Inflorescence terminal racemes 3–8 cm long; bracts subulate-lanceolate, as long as to slightly longer than pedicel. Pedicels 2.5–3.5 mm long, to 5 mm in fruit, glandular. Calyx ca. 5 mm long, divided to base into linear-lanceolate lobes with dark brown lines. Corolla rose, 7.5–8.5 mm long,

tube ca. 2 mm long; lobes oblong-lanceolate, 3–3.2 mm wide, often glandular striate, apex rounded, sinus \pm obtuse. Stamens as long as corolla or slightly longer; filaments adnate to base of corolla lobes, free part glabrous; anthers elliptic, ca. 1 mm long. Ovary glabrous. Style ca. 7 mm long. Capsule globose, brown, ca. 2.5 mm diam.

Lysimachia tsaii is distinguished from the related *L. taliensis* Bonati by its subopposite leaves with crisped-undulate margin and glandular striate corolla lobes. The latter, which is also endemic to Yunnan, has entire leaves in whorls of 3 or 4, but opposite on branches, and eglandular corollas.

Paratypes. CHINA. **Yunnan:** Longping Xian, by stream, alt. 3,000 m, *H. T. Tsai* 53797 (IBSC), *H. T. Tsai* 57549 (IBSC).

Lysimachia henryi* var. *guizhouensis C. M. Hu, var. nov. TYPE: China. Guizhou: Jingkou Xian, Tongkuangchang, river flood plain and adjacent mixed deciduous broad-leaved evergreen forest, alt. 900 m, *Sino-American Guizhou Bot. Exped.* 548 (holotype, A).

Herba perennis. Caulis 10–18 cm altus, pilis multicellularibus obsitus. Folia opposita, lanceolata, rare elliptica vel ovato-elliptica, (1.2–)2.5–6 cm longa, 0.5–1.5 cm lata, supra sparse subtus sparsissime vel vix setulosa. Pedicelli 2–5(–6) mm longi, sparse pilosi. Calyx ca. 7 mm longus fere ad basin in lobos lanceolatos acuminato glandulis pellucidis obsitos fissus, extus ut pedicelli indutus. Corolla lutea, ca. 13 mm longa, lobos obovatos ca. 8 mm latos, apice rotundatos fissa, glandulis ecoloribus obsita. Filamenta in tubum ca. 3 mm altum supra densissime glandulosum connata, partibus liberis 3–4 mm longis. Stylus ca. 6 mm longus.

Perennial herbs. Stem often prostrate and radical part erect, 10–18 cm high, covered with multicellular hairs. Leaves opposite, lanceolate, rarely elliptic to ovate-elliptic, (1.2–)2.5–6 cm long, 0.5–1.5 cm wide, papery, sparsely setulose adaxially, sparsely or scarcely setulose abaxially, base gradually narrowed into petiole 4–6 \times shorter than blade; midrib prominent abaxially, lateral veins inconspicuous. Flowers 3–8, in umbellate-subcapitate inflorescence. Pedicels 2–5(–6) mm long, sparsely pilose. Calyx ca. 7 mm long, divided to base into lanceolate acu-

minate lobes covered with translucent glands. Corolla yellow, ca. 13 mm long, lobes obovate, ca. 8 mm wide, apex split into rounded halves, glandular. Filaments connate at base into a tube ca. 3 mm long, densely glandular, free part 3–4 mm long; anthers linear-oblong, ca. 2 mm long. Ovary pilose on upper half. Style ca. 6 mm long.

Lysimachia henryi var. *guizhouensis* differs from variety *henryi* in having \pm minutely setulose instead of glabrous or abaxially pilose leaves.

Paratypes. CHINA. **Guizhou:** Jingkou Xian, Heiwan River, SE side of the Fanjing Shan mountain range, alt. 650–800 m, rooting in crevices on mossy ledges along river, *Sino-American Guizhou Bot. Exped.* 121 (A); Songtao Xian, vicinity of Lengjiaba, NE side of the Fanjing Shan mountain range, alt. 820–1,120 m, growing in thin soil on rock outcrop on forest slope, *Sino-American Guizhou Bot. Exped.* 2307 (A).

Lysimachia kwangtungensis (Handel-Mazzetti)

C. M. Hu, comb. et stat. nov. Basionym: *Lysimachia congestiflora* Hemsley var. *kwangtungensis* Handel-Mazzetti, Notes Roy. Bot. Gard. Edinburgh 16: 168. 1931. TYPE: China. Guangdong: Shiuchou region, *To Kang Peng & Groffe* 2858 (holotype, W; isotype, CAS).

Perennial herbs. Stems erect, 15–30 cm high, simple or often branched above, with reddish multicellular hairs. Leaves opposite, ovate-lanceolate to lanceolate, 1.5–7 cm long, 1–2.2 cm wide, sparsely setulose on both sides, rarely glabrescent, translucent glandular-dotted throughout and densely so along margin, base narrowly cuneate, apex acuminate; lateral veins 3 pairs, slender, oblique; petiole 4–10 mm long, narrowly margined, subamplexicaul. Flowers 4–10, congested at stem apex; bracts ovate, ciliate. Pedicels ca. 5 mm long. Calyx divided almost to base into lanceolate lobes 5–6 mm long, 0.6–1 mm wide, pubescent outside. Corolla yellow, tube ca. 1 mm long; lobes oblong-elliptic, 8–9 mm long, 5–5.5 mm wide, obtuse, anterior glandular red to dark purple. Filaments connate into a tube ca. 2 mm long, free parts 2–3 mm long; anthers oblong, ca. 1.2 mm long. Ovary pilose on upper half. Style 5–6 mm long. Capsule subglobose, 3.5–4 mm diam., brown.

In its overall aspects, leaves, and habit, *Lysimachia kwantungensis* shows some affinity to *L. hemsleyi* Franchet and *L. fistulosa* Handel-Mazzetti. It is readily distinguished from these by its red or dark purple punctate corolla lobes.

Additional specimens examined. CHINA. **Guangdong:** Ruyuen Xian, by streams, alt. 200 m, *S. H. Chun* 1384 (IBSC); Yangshan Xian, on rocks in valleys, *L.*

Teng 1346 (IBSC); roadsides near water, alt. 600–700 m, *Y. C. Tseng* 170398 (IBSC). **Hunan:** Hen Shan, in shade place, alt. 525 m, *S. H. Chun* 3494 (IBSC).

Primula tardiflora (C. M. Hu) C. M. Hu, comb. et stat. nov. Basionym: *P. ovalifolia* subsp. *tardiflora* C. M. Hu, Fl. Reipubl. Popularis Sin. 59(2): 292. 1990. TYPE: China. Sichuan: Emei Shan, in deciduous broad-leaved forest, alt. 2,000–2,500 m, *K. H. Yang* 54421 (holotype, IBSC).

Perennial efarinose herbs. Rhizomes short, thick, covered with ovate to oblong-ovate scales 1–3 cm long. Leaves broadly obovate to broadly elliptic, (3–)5–9 cm long, 2.5–6 cm wide, \pm accrescent after anthesis, papery, adaxially glabrous, abaxially pubescent along veins, glabrous elsewhere, base attenuate to narrowly decurrent, margin hydathode dentate, apex rounded; lateral veins 10–12 pairs; petiole as long as blade or shorter, narrowly winged. Scape 5–12 cm long, to 18 cm in fruit, sparsely brownish pubescent; umbel solitary, 3–6-flowered; bracts linear-lanceolate, 3–5 mm long. Pedicels 7–12 mm long, to 2 cm in fruit, sparsely pubescent. Calyx campanulate, 9–10 mm long, puberulent outside, divided to middle into lanceolate acute lobes. Corolla heterostylous, pale purple, with white eye; tube slightly longer than calyx; limb 2–2.5 cm diam., lobes oblong-ovate, emarginate. Stamens of long-styled flowers inserted at middle of corolla tube, those of short-styled flowers inserted a little lower. Ovary globose. Short styles reaching middle of corolla tube, long styles exerted. Capsule not seen.

Primula tardiflora is a rare species apparently confined to a small area on Mt. Emei. It superficially resembles *Primula ovalifolia* Franchet, but can be distinguished by its leaves with attenuate base and sparsely pubescent veins. *Primula ovalifolia* occurs at low elevations on Mt. Emei and reaches its upper altitudinal limit at 1,700 m, while *P. tardiflora* grows at higher altitudes (2,000–2,500 m), and it flowers from the end of April to May, about one month later than *P. ovalifolia*.

Additional specimens examined. CHINA. **Sichuan:** Emei Shan, in deciduous broad-leaved forest, alt. 2,100–2,400 m, *K. H. Yang* 54324, 55168, 55259 (IBSC), *T. H. Hsiung*, *S. S. Chang* & *H. L. Tsiang* 30166 (IBSC), *W. P. Fang* 231 (IBSC), *S. L. Sun* 1865 (IBSC).

Primula melanantha (Franchet) C. M. Hu, comb. et stat. nov. Basionym: *P. nivalis* Pallas var. *melanantha* Franchet, J. Bot. (Morot) 9: 449. 1895. TYPE: China. Sichuan: Kangding Xian (Tatsien-lou), Zhe-duo Shan, *Soulie* 516bis (holotype, P).

Perennial herbs. Rhizomes short, thick, densely covered with imbricate, persistent, ovate-lanceolate scales 2–6 cm long. Leaves oblanceolate, 5.5–12 cm long, 1.5–3 cm wide, gradually narrowed to base, margin crenate-denticulate, adaxially densely pubescent, abaxially sparsely or scarcely pubescent; midvein broad, prominent, lateral veins slender, inconspicuous; petiole broadly winged, much longer than basal scales at about anthesis. Scapes 25–40 cm high, puberulent, \pm white farinose near apex; umbel simple, many flowered; bracts 7–10 mm long, basal ones triangular, subulate-acuminate. Pedicels 1–3 cm long. Calyx campanulate, 8–9 mm long, divided to middle or above into lanceolate, acute, ciliolate lobes. Corolla heterostylous, dark purple; tube of long-styled flowers 8–9 mm long, that of short-styled flowers 11–12 mm long; limb 1–1.3 cm diam.; lobes oblong to oblong-elliptic, 6–9 \times 2–4.5 mm, puberulent on both sides, apex obtuse to

\pm acute. Stamens of long-styled flowers inserted at basal 3 mm of corolla tube, those of short-styled flowers inserted near tube apex. Ovary globose. Long styles slightly exerted from corolla tube, short styles reaching middle of corolla tube. Capsule not seen.

Although originally described as a variety of *Primula nivalis* Pallas and later associated with *P. limbata* Balfour f. & Forrest and *P. russeola* Balfour f. & Forrest, *P. melanantha* is much closer to *P. purdomii* Craib on account of its habit. It differs from all the above-mentioned species by its pubescent leaves and much smaller flowers.

Additional specimens examined. CHINA. **Sichuan:** Kangding Xian (Tatsien-lou), Zhe-duo Shan, Souli 2234, 3121 (P).

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